Town of Buckeye 2005 Water Quality Report

The Safe Drinking Water Act (SDWA) requires public water systems to provide an annual report on the type and quantity of substances that are in our water. The SWDA, as amended in 1996, has specific guidelines concerning drinking water which includes methods of testing and frequency of sampling. The data in this report was a result of the water quality sampling and testing performed in 2005.

The Environmental Protection Agency (EPA) administers the SDWA to ensure tap water is safe to drink by restricting the presence of contaminants in the public water systems. Bottled water, on the other hand, is regulated by the Food and Drug Administration (FDA), which limits contaminants for similar protection to the public health.

The Town of Buckeye Commitment

The Town of Buckeye has provided fresh, clean, safe water for the Buckeye Community in the West Valley since the mid 1940's. Our commitment is to provide a sufficient supply of quality drinking water for our growing community. We strive to deliver quality water with the best service possible.

This report will describe the quality water and services we deliver to the Town of Buckeye every day. Our constant goal is to provide a safe and dependable supply of drinking water. The Town of Buckeye continually improves the water treatment process and protects our water resources. Each year, the Town of Buckeye Water Department conducts and collects more than 350 samples of drinking water you receive at your home or business. These tests ensure that your water meets every health and safety standard set by the state and/or the federal government.

This report is a summary of the quality of the water we provide our customers. The analysis was made by using the data from the most recent U.S. Environmental Protection Agency (EPA) required testing methods which is presented in the following pages. We hope this information helps you become more knowledgeable about what is in your drinking water.

What Are Buckeye's Water Plans For The future?

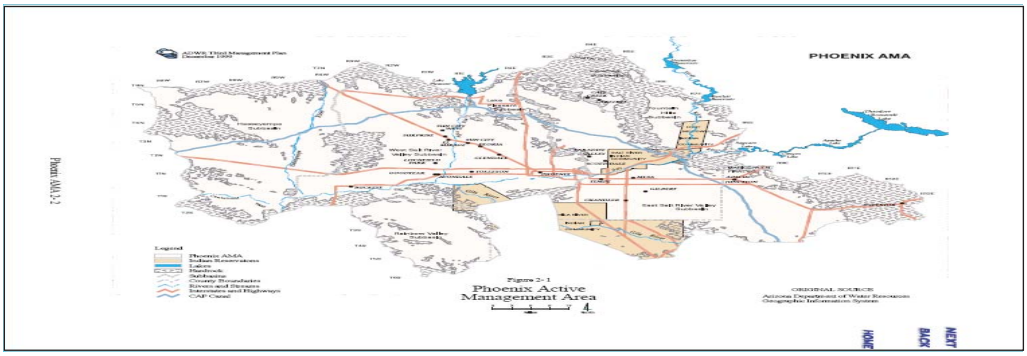
Each year, the Town of Buckeye looks for new ways to improve our water system and invests heavily, not only in routine maintenance, but also in enhancements. We are in the midst of capital improvement projects which include:

- Replacing a 500,000 gallon tank with a 700,000 gallon tank for wells # 11, 12, & 14 water storage.
- Renovating well # 12.
- Constructing a Reverse Osmosis (RO) treatment facility to treat well # 11 for high Arsenic and Total Dissolved Solids.
- Replacing an 8" water main with a 16" water main downtown Buckeye on Main Street.
- Constructing a new booster station.
- Conducting the Hassayampa Hydrologic Study to find a premium quality of drinking water for the Town's required 100 year assured water supply.

The Town's Water Department is dedicated to providing premium water service. We are proud of our continued record of consistently meeting all water quality standards and requirements.

Working Hard To Deliver Quality Water

Where Do We Get Our Drinking Water?



We are committed to ensuring the quality of your water. Our water source is supplied by groundwater pumped from the West Salt River Valley Sub-Basin and the Hassayampa Sub-Basin. The fresh water is then stored in the service reservoirs which are located at various places and elevations throughout the Town's three water service areas, and goes through a treatment works disinfection process to prevent microbial growth. The treated water that leaves the service reservoirs are distributed to the Town's many customers through an extensive distribution system.

The Town of Buckeye Water Production Facility Plants operates 24 hours per day, seven days per week to produce a reliable source of drinking water. The operations staff consists of seven operators which hold Grade 1, Grade 2, or Grade 3 Arizona Operator Certifications. Together they have attended more than 30 hours of Continuing Education training in the past year in an effort to keep up-to-date with the latest in water treatment techniques. Their goal is to provide the consumer with the best water possible.

The Source Water Assessment Program (SWAP)

The Source Water Assessment Program (SWAP) is part of a nationwide effort initiated in 1996 by amendments to the Safe Drinking Water Act. The intent of the SWAP is to complete an evaluation of all sources of water (wells, surface water intakes and springs) that provide drinking water to public water systems in Arizona. This evaluation determines the degree to which the source of water is protected. Arizona's SWAP was approved by the US Environmental Protection Agency in November 1999. The goal of the SWAP is to promote community awareness, and to facilitate and encourage source water protection at the community level.

SWAP provides detailed information on public water system drinking water sources by evaluating the hydrogeologic setting in which the source is located and any adjacent land uses that are in a specified proximity of the drinking water source. Once this information is gathered, it is evaluated to determine the extent to which the drinking water sources are protected from future natural or man-made contamination. Water sources are then categorized as either "high risk" or "low risk". A designation of high risk indicates there are additional source water protection measures that can be implemented at the local level. A low risk designation indicates that most source water protection measures are either already implemented, and/or the hydrogeologic setting is such that it is protective of the source water.

All public water systems are required to comply with federal and state laws for monitoring and reporting to ensure that the water they serve to the public meets national drinking water standards. Regardless of the risk rating, ADEQ encourages local communities to actively engage in source water protection activities.

Additional information can be obtained from the ADEQ's website at www.adeq.state.az.us or the EPA's website at www.epa.gov.

This report shows our water quality and what it means.




Sampling Results:

We are pleased to report that during the past year, the water delivered to your home or business complied with, or did better than, all state and federal drinking water requirements. For your information, we have compiled the table below to show what substances were detected in our drinking water during 2005. Although all of the substances below are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Detected Regulated Contaminants:

Contaminant In mg/L	Year Sample	Violation	Sundance /Sunora	Town of Buckeye	Airport	MCL	MCLG	Likely Source
Arsenic	2005	No	0.019	0.012	0.010	0.05	NA	Erosion of natural deposits
Barium	2005	No	0.22	0.19	DNS	2	2	Erosion of natural deposits
Chromium	2005	No	0.015	0.015	DNS	0.1	NA	Erosion of natural deposits
Fluoride	2005	No	1.43	1.46	0.92	4	4.0	Erosion of natural deposits
Nitrate	2005	No	2.23	5.35	2.98	10	10	Erosion of natural deposit
Selenium	2005	No	<0.005	0.004	DNS	0.05	0.03	Erosion of natural deposit
Ethylbenzene	2005	No	<0.0005	<0.0005	DNS	0.7	0.5	Discharge for petroleum refineries
Chlorine (ppm)	2004	No	.43	1.0	NA	1.0	NA	Water additive used to control microbes
Haloacetic Acids (HAA5)	2005	No	<0.0020	<0.0020	<0.0020	0.060	0.030	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	2005	No	0.0026	0.0044	<0.0020	0.080	NA	By-product of drinking water disinfection
Total Coliforms (% positive samples) No more than 5% of the monthly samples may be total coliform positive	2005	Yes	0	3	0	5	0	Naturally present in the environment
Lead	2005	No	0.0022	0.0015	0.0024	0.015	NA	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	2005	No	0.026	0.10	0.0084	1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits

Understanding water terminology definitions:

DNS-did not sample

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Treatment Technique (TT) - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) - (mandatory language) The "Maximum Allowed" MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - (mandatory language) The "Goal" MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

About PWS ID # 07-089 Town of Buckeye Total Coliform Violations of MCL

This notice is to inform customers of the Town of Buckeye water system PWS#07-089 that in the months of February and August 2005, the water system violated the maximum contaminated level (MCL) for total coliform. After the February incident occurred, the water system was flushed thoroughly and the disinfectant was increased to kill any coliform bacteria that may have been present. The general public was notified of this event in the Buckeye Valley News on March 17, 2005. Totals Coliforms: "The United States Environmental Protection Agency (EPA) sets drinking water quality standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was warning of potential problems. EPA has set an enforceable drinking water standard for total coliforms to reduce the risk of any adverse health effects. Under this standard, no more than one out of five samples collected during a month can contain these Coliforms-positive bacteria. Drinking water which meets this standard is usually not associated with a health risk form disease-causing bacteria and should be considered safe." In August 2005, three (3) of eight (8) water samples collected were positive for total coliform which is a violation of the MCL. The water system was flushed and the disinfectant level was increased. After this occurred, the water system was sampled for two days and all the sample results came back negative. Additional precautions taken, although not required, were the addition of a chlorinator at the Church Well on the east side of town, the Town changed laboratories because of the possible contamination of the sample bottles inside their laboratory, and the Town hired a private sampling contractor to collect and transport the bacti samples to the new laboratory. Since this last incident occurred in August of 2005, all of the samples collected have resulted in a negative test from total coliform bacteria. The Town of Buckeye wants to assure our residents their drinking water is safe to consume and the Public Works Water Department will continue to monitor and examine the water quality to ensure you have a secure water supply.

About PWS ID # 07-154 Sundance / Sunora Noncompliance for Sampling and Monitoring

This notice is to inform customers of the Sundance/Sunora water system PWS#07-154, that on October 15, 2005, the Town of Buckeye received a Letter of Outstanding Violations from the Maricopa County Environmental Services Department (MCESD) with the allegations that the Town of Buckeye failed to report to MCESD; that the required four consecutive quarters of nitrate monitoring on well # POE 001 for exceeding the trigger level in 2003 has not been completed, that the two consecutive six-month monitoring periods of lead and copper monitoring has not been completed, that disinfection residual monitoring has not been completed, failed to provide public notice for missed nitrate monitoring, failed to provide public notice for missed radiochemical monitoring, failed to provide public notice for missed disinfection residual monitoring, failed to increase nitrate monitoring on POE 001 from annually to quarterly for exceeding the trigger level of 5 mg/l in 2003, failed to monitor the disinfection residual level in the distribution system, and failed to perform second consecutive six-month period of lead and copper monitoring. The referenced portions of the Sundance/Sunora Public Water System (POE #001) have been out of service since the fourth quarter of 2003, shall not be returned to service, and therefore cannot be in non-compliance with the alleged sampling and monitoring standards. The Sundance/ Sunora water system has radiochemical monitoring performed under the MAP program through the Arizona Department of Environmental Quality (ADEQ). Radiochemical sampling occurred in the second quarter, third quarter, fourth quarter of 2005 and the first quarter of 2006, to complete the four consecutive quarters. The referenced water system also provided public notice in the Buckeye Valley News on November 25, 2005 and faxed a copy of the notice to Maricopa County on December 7, 2005. The Town has monitored disinfection residuals since this public notice and therefore was not required to provide public notice from December 2004 through November 2005. No violations for failure to provide public notice for missed radiochemical or missed disinfection residual monitoring had occurred. Maricopa County was aware in 2004 of the violation that occurred concerning the referenced public water system which failed to monitor disinfection residual for the period January through September 2004 and that the Town issued a public notice as required by the County for this failed monitoring. No violations for failure to monitor the disinfection residual level in the distribution system had occurred. The Sundance/Sunora public water system conducted tap water monitoring for lead and copper on August 16th through 18th of 2005, in December 2005, and again as an added precaution, in February 2006 to meet the two consecutive six-month monitoring period requirements of this violation. The Town of Buckeye is committed to provide safe, quality drinking water to its citizens and is committed to meeting all of its regulatory compliance obligations. The Town has taken additional precautions to improve in these areas as follows: 1) The Town hired an Environmental Regulatory Coordinator in June 2005. This position has been arranged in the organizational structure to oversee regulatory compliance, provide training, inspection auditing, sampling, etc. Effective October 31, 2005, all sampling obligations have been re-assigned under direct control of the Environmental Regulatory Coordinator. 2) The Town hired a third party consultant to serve as sampling technician for the Town until a Town sampling-environmental technician position can be approved and budgeted. 3) The Town has established a strict notification protocol, which it is in the process of documenting as written procedure. This protocol will ensure that Town management and regulatory agencies are properly notified.

About PWS ID # 07-462 Airport Failure to Monitor

This notice is to inform customers of the Airport water system PWS#07-462, that on November 22, 2005, The Town of Buckeye a Notice of Sanitary Survey Results from Maricopa County Environmental Services Department (MCESD) from an inspection that occurred on November 9, 2005. The inspector found that the water system failed to conduct initial monitoring for lead and copper for two consecutive six-month periods and failed to monitor for lead and copper since 2001 (non-compliance with the Safe Drinking Water Rule). The Town of Buckeye collected lead and copper water samples in August 2005, November 2005 and again in February 2006 to meet the six-month time span requirements. Even though the Town had not collected lead and copper water samples since 2001, they now have in place a regulatory schedule and have hired a third party consultant to serve as a sampling technician for the Town until a Town sampling/environmental technician position can be approved, budgeted, and hired. A Public Notice was forwarded to the MCESD for approval on December 20, 2005; the Public Notice was distributed to the Airport residents on December 21, 2005; posted to the Town website for one year; and is included in this years (2006) Consumer Confidence Report. The Town received a compliance status report on January 13, 2006 from the Maricopa County Environmental Services Department stating that the water system is now IN COMPLIANCE.

Drinking Water and Your Health:

SPECIAL NOTICE FOR THE ELDERLY, INFANTS, CANCER PATIENTS, PEOPLE WITH HIV/AIDS OR OTHER IMMUNE PROBLEM

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. The technical term for anything other than water in our water is "contaminant." It is natural for drinking water to contain contaminants, but as you will see, the Town of Buckeye water is well within allowable limits.

As water travels over the surface of the land or percolates through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater discharges, oil and gas production, mining, or farming.
Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban stormwater runoff, and septic systems.
Radioactive contaminants, which can be naturally-occurring or may be the result of oil and gas production and mining activities.

Some people may be more vulnerable to contaminates in drinking water than the general population. Immuno-compromised persons, which may include a person with cancer undergoing chemotherapy, a person with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease control and prevention (CDC) provide guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants. More information concerning contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at **1-800-426-4791** or www.epa.gov/safewater/sdwa/sdwa.html.

10 WAYS PUBLIC WATER HELPS YOU LOOK YOUNGER AND FEEL ENERGIZED

We have all been encouraged to drink eight glasses of water each day, but many do not know the full extent of water's benefits.

Here are just some of the ways water acts as a natural health supplement in your life:

1. Reduces daytime fatigue
2. Improves memory
3. Nourishes skin
4. Essential for digestion, nutrient absorption and chemical reactions
5. Helps remove toxins from your body
6. Aids circulation
7. Regulates your body's cooling system
8. May prevent kidney stones and urinary tract infections
9. Improves muscle tone
10. Helps lubricate skin

OTHER HEALTHFUL WATER TIPS

For less than a penny per gallon, you can start realizing the health benefits of drinking water today. Here are a few tips for adding more water into your life:

- Keep a supply of water containers full in the refrigerator. That way, water is always on hand as an alternative to other less healthful drinks and conveniently available when you are on the go.
- Upon arriving to the office, fill up a big jug of water from the tap. You will get plenty of water to drink throughout your workday.
- Caffeinated beverages act as diuretics and increase fluid loss, so they do not count toward your daily hydration needs. Try substituting water for your second cup of coffee or that mid-afternoon soda.
- Do not wait for your body to signal it is thirsty. By the time that occurs, you are already starting to be dehydrated.
- For the price of a single12-ounce of soda-about 50 cents –many communities deliver up to 1,000 gallons of fresh, clean drinking water to homes 24 hours per day. If drinking water and soda pop were equally costly, your water bill would skyrocket more than 10,000%.

Why Conserve Water?

The West Salt River Valley Sub-Basin and the Hassayampa Sub-Basin are the primary sources of drinking water for the Town of Buckeye. These "Sub-Basins" stretch for over 660 square miles, are only 350 feet below the surface, and supply over 33,000 thousand people with high-quality drinking

water. That is why it is so important to increase our efforts in protecting and conserving the Town of Buckeye's number one natural resource. The Town of Buckeye is a permitted water supply system with overall regional limits to pumping (extracting water). This means the Town of Buckeye is only allowed a specified amount of water from the West Salt River Valley Sub-Basin and Hassayampa Sub-Basin. This is why it is so important to save this natural resource. Conservation is the cheapest means of saving water. The water we save is water we will not have to purchase. Therefore it is very important that we do everything we can to decrease our water consumption. Plumbing fixture retrofits, xeriscapes, and improved habits are all things that will help us make low water use a part of everyday life.

Eight ways that will conserve the most water:

1. Do your lawn sprinkling early in the morning, between 4 and 6 a.m., when water demand is low. After about 10 a.m., both heat and evaporation increase robbing the lawn moisture. Sprinkling at night is great for desert climates of the Southwest.
2. Do not run the hose while washing your car. Use a bucket of water and a quick hose rinse at the end. Place (screw-on) a shut-off sprayer on the end of your hose and only turn on the sprayer to rinse your vehicle after washing. This practice shall save 150 gallons each time. For a two-car family this will add up to 1,200 gallons per month.
3. By turning off the water while you brush your teeth or shave, you can save up to 10 gallons of water per day.
4. Install water-saving shower heads or flow restrictors. Saves 500 to 800 gallons per month.
5. Shorten your showers. Have you ever heard of showering "The Navy Way?" Because fresh water is relatively scarce on ships, sailors were taught to just get wet, and then turn off the shower while soaping and scrubbing, and turn it on again briefly to rinse off. It is a great water conservation technique. Even a one or two minute reduction can save up to 700 gallons per month.
6. Use a broom instead of a hose to clean driveways and sidewalks. Saves 150 gallons or more each time. At once a week, that is more than 600 gallons a month.
7. Do not water the sidewalks, driveway or gutter. Adjust your sprinklers so that water lands on your lawn or garden where it belongs--and only there. Saves 500 gallons per month.
8. Keep a bottle of drinking water in the refrigerator. This ends the wasteful practice of running tap water to cool it off for drinking.

Frequently Asked Questions

What is hard water?

Hard water is probably the most common water problem found in the home. According to the Water Quality Association of the United States, hard water is water that contains dissolved hardness minerals above 1 GPG (grains per gallon). Parts per million or grains per gallon are both used to describe the dissolved hardness of minerals contained in water. One part per one million (PPM) is one unit of a substance out of one million units of water. Grains, or grains per gallon (GPG), is a unit of weight. It is 1/7000 of a pound. One GPG, (1gpg) is equal to 17.1 PPM. The most common hardness causing minerals are Calcium and Magnesium that is dissolved in a water supply. Hardness levels are:

Soft Water – less than 1 gpg
Slightly hard – 1 to 3.5 gpg
Moderately hard – 3.5 to 7 gpg
Hard – 7 to 10.5 gpg
Very Hard – 10.5 and higher gpg

What are the advantages of underground water sources?

The great advantage of a groundwater water supply is that it needs minimal treatment. Before your water reaches your home or office, it passes through a vast reservoir of sand that filters it to a far greater degree than a standard water treatment facility provides. When we pump this naturally filtered water from the ground, it already meets most water quality standards without any additional treatment. We treat your water with some chlorine to make sure while it passes through the pipeline to your home or office, it maintains its quality.

Are these the only tests that are performed on my water?

In 2005, the Town of Buckeye conducted analyses for 75 different contaminants at each of the water sources. In addition, we conducted tests for the presence of coliform bacteria at 24 locations on a monthly basis. The table shows only those contaminants that were at levels large enough to be measurable. All other contaminants were at concentrations below the detectable limit.

Frequently Asked Questions

What about arsenic in our water?

The U.S. EPA recently lowered the MCL threshold for arsenic in drinking water. Even with the more stringent standard, the arsenic level in Buckeye's drinking water is below the MCL. There are seldom any times that you are exposed even to very low levels of contamination and we continue to take steps to minimize the level of arsenic in our water.

What causes discolored water that sometimes comes from my tap?

The Town of Buckeye Water Department takes a series of proactive steps to make sure that your water is clean and clear. As water passes through the distribution system, iron-oxide (rust) is deposited on the walls of the pipes. Sudden changes in velocity of the water can slough this material off the pipe causing discolored water. We operate the water system to keep flows as steady as possible. In addition, a system-wide hydrant flushing program is conducted in the fall of each year to remove some of the build-up on the pipe walls and to reduce the impact of flow disturbance on the quality of your water.

Why is chlorine added to the water?

The State of Arizona requires that all public water systems employ disinfectants to prevent the possibility of contamination after water has been pumped through the distribution system. In Buckeye, we use chlorine and strive to keep concentrations between 0.5 and 1.5 ppm.

Town of Buckeye Contact Information:

If you have any questions about your water or the information in this report, please call Lucky Roberts, Environmental/Regulatory Manager (623) 694-5926 during normal business hours (8:00 a.m. to 5:00 p.m., Monday through Friday).

Para la ayuda en espanol con este informe, por favor pongase en contacto con el departamento de la direccion de agua de la Town of Buckeye, Sr. Manuel Alvarez en (623)764-4848.

You can also visit our website at http://www.buckeyeaz.gov.

Links to other sites:

Precautions Required for Immuno-Compromised Individuals (e.g. HIV/AIDS Patients, Patients in Chemotherapy)	USEPA Safe Drinking Water Hotline: 1-800-426-4791 www.epa.gov/safewater
Water Quality (All Aspects)	USEPA Safe Drinking Water Hotline: 1-800-426-4791 www.epa.gov/safewater USEPA Questions & Answers safewater.custhelp.com
Arizona Department of Environmental Quality (ADEQ)	ADEQ Water Quality Division 602-771-2300 or 1-800-234-5677 www.azdeq.gov/environ/water/index.html
Maricopa County Environmental Services Department (MCESD)	MCESD Water & Waste Management 602-506-6666 www.maricopa.gov/envsvc/default.asp